IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Yano, et al.
Int'l Appl. No.	:	PCT/JP2004/016953
Int'l Filing Date	:	November 15, 2004
For	:	FUEL CELL
Examiner	:	Unknown
Group Art Unit	:	Unknown

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Prior to calculation of the number of claims, please amend the present application.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

AMENDMENTS TO THE SPECIFICATION

Prior to the first line of the specification on page 1, please insert the following paragraph:

This application is the U.S. National Phase under 35 U.S.C. §371 of International Application PCT/JP2004/016953, filed November 15, 2004, which claims priority to Japanese Patent Application No. 2003-389053, filed November 19, 2003, No. 2003-389059, filed November 19, 2003, No. 2004-035304, filed February 12, 2004, No. 2004-118083, filed April 13, 2004, and No. 2004-163116, filed June 1, 2004. The International Application was not published under PCT Article 21(2) in English.

AMENDMENTS TO THE CLAIMS

Please add claims 13-20.

1 (previously presented): A fuel cell comprising a sheet-like solid polymer electrolyte, a cathode-side electrode plate arranged on one side of the solid polymer electrolyte, an anode-side electrode plate arranged on the other side, a cathode-side metal plate which is arranged on a surface of the cathode-side electrode plate and enables a gas to be flown to an internal side, and an anode-side metal plate which is arranged on a surface of the anode-side electrode plate and enables a fuel to be flown to an internal side,

wherein a circumferential part of the solid polymer electrolyte is extended from the electrode plates on both sides, and circumferences of the metal plates on both sides are mechanically sealed by bending press in the state where they are electrically insulated, while the circumferential part is held by opposite parts of the metal plates.

2 (canceled)

3 (original): The fuel cell according to claim 1, wherein a flow path groove formed by press processing, and an inlet and an outlet communicating with the flow path groove are provided on the anode-side metal plate.

4 (original): The fuel cell according to claim 1, wherein a flow path groove formed by etching, and an inlet and an outlet communicating with the flow path groove are provided on the anode-side metal plate.

5 (original): The fuel cell according to claim 1, wherein a flow path groove is formed on an external surface of the cathode-side electrode plate and/or the anode-side electrode plate and, an inlet and an outlet communicating with the flow path groove are provided on a metal plate arranged on a surface thereof.

6 (original): The fuel cell according to claim 5, wherein the cathode-side electrode plate and/or the anode-side electrode plate is such that a catalyst is carried on at least one side of an aggregate of fibrous carbon, and a flow path groove in which the fibrous carbon has been removed by laser irradiation is formed on the other side.

7 (original): The fuel cell according to claim 1, wherein the circumferential part of the solid polymer electrolyte is extended to be exposed from a circumference of a sealed metal plate.

8 (original): The fuel cell according to claim 7, wherein an insulating material is further interposed between a circumference of the metal plate and a circumferential part of the solid polymer electrolyte.

9 (original): The fuel cell according to claim 1, wherein a thickness of a circumferential part of at least one of the anode-side metal plate and the cathode-side metal plate is made smaller by etching than a thickness of other part.

10 (original): The fuel cell according to claim 1, wherein an opening part for supplying oxygen in the air is provided on the cathode-side metal plate.

11 (original): The fuel plate according to claim 1, wherein a circumferential part of the solid polymer electrolyte is held by metal plates on both sides via an annular sealing member.

12 (original): The fuel cell according to claim 1, wherein the fuel cell has a structure in which an external circumferential part of one metal plate is greater than an external circumferential part of the other metal plate, and an external circumferential part of the one metal plate is turned up so as to holding-press an external circumferential part of the other metal plate and, a surface of the other metal plate and a surface of the turned up external circumferential part are used as a current taking out part.

13 (new): A fuel cell comprising:

a sheet-shaped solid polymer electrolyte;

a cathode-side electrode plate arranged on one side of the solid polymer electrolyte;

an anode-side electrode plate arranged on the other side of the solid polymer electrolyte;

a cathode-side metal plate arranged on a surface of the cathode-side electrode plate opposite to the solid polymer electrolyte, wherein a gas flow channel for passing a gas therethrough is formed between the cathode-side metal plate and the cathode-side electrode plate; and

an anode-side metal plate arranged on a surface of the anode-side electrode plate opposite to the solid polymer electrolyte, wherein a fuel flow channel for passing a fuel therethrough is formed between the anode-side metal plate and the anode-side electrode plate,

wherein a parameter of the solid polymer electrolyte protrudes from the electrode plates sandwiching the solid polymer electrolyte,

the metal plates extend to and sandwich the protruding part of the parameter of the solid polymer electrolyte, and

parameters of the metal plates are mechanically sealed by bending press and electrically insulated from each other.

14 (new): The fuel cell according to claim 13, wherein the cathode-side metal plate has an inlet opening for introducing the gas into the gas flow channel and an outlet opening for discharging the gas from the gas flow channel.

15 (new): The fuel cell according to claim 13, wherein the anode-side metal plate has an inlet opening for introducing the fuel into the fuel flow channel and an outlet opening for discharging the fuel from the fuel flow channel.

16 (new): A method of producing a fuel cell comprising:

providing a structure comprising a sheet-shaped solid polymer electrolyte sandwiched by a cathode-side electrode plate and an anode-side electrode plate, wherein a parameter of the solid polymer electrolyte protrudes from the electrode plates sandwiching the solid polymer electrolyte;

placing a cathode-side metal plate on a surface of the cathode-side electrode plate, wherein a gas flow channel for passing a gas therethrough is formed between the cathode-side metal plate and the cathode-side electrode plate;

placing an anode-side metal plate on a surface of the anode-side electrode plate, wherein a fuel flow channel for passing a fuel therethrough is formed between the anode-side metal plate and the anode-side electrode plate, wherein the metal plates extend to and sandwich the protruding part of the parameter of the solid polymer electrolyte, and

mechanically sealing parameters of the metal plates by bending press wherein the metal plates are electrically insulated from each other.

17 (new): The method according to claim 16, wherein the fuel flow channel is formed as a groove by press processing the anode-side metal plate.

18 (new): The method according to claim 16, wherein the fuel flow channel is formed as groove by etching the anode-side metal plate.

19 (new): The method according to claim 16, wherein the cathode-side electrode plate is made of an aggregate of fibrous carbon wherein a catalyst is placed on one side of the aggregate of fibrous carbon, and the gas flow channel is formed on the other side as a groove by removing a part of the aggregate of fibrous carbon by laser irradiation on the other side.

20 (new): The method according to claim 16, wherein the anode-side electrode plate is made of an aggregate of fibrous carbon wherein a catalyst is placed on one side of the aggregate of fibrous carbon, and the fuel flow channel is formed on the other side as a groove by removing a part of the aggregate of fibrous carbon by laser irradiation on the other side.

REMARKS

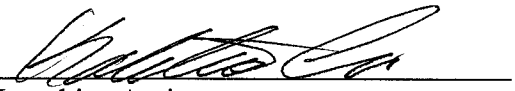
Claim 1 was amended and claim 2 was canceled at the international stage under Article 34. Claims 13-20 have been added. Support can be found throughout the specification. The PCT information has been added to the specification. The amendments do not constitute the addition of any new matter to the specification. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Should the Examiner have any questions concerning this amendment, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 9, 2006 By: 

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